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WORK OF SEMINAR ON PRECISION MECHANICS AND CALCULATING TECHNIQUES

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The seminar on precision mechanics and calculating techniques, directed by Academician I. G. Bruyevich, began January 1946 and was held in the Institute of Machine Studies, Academy of Sciences USSR.

After 2½ years there have been more than 100 studies, and more than 30 lectures have been delivered. The seminar carried on its work with the assistance of the following: (1) Department of Precision Mechanics, Institute of Machine Studies, Academy of Sciences USSR; (2) Department of Approximate Calculations, Mathematical Institute imeni V. A. Steklov, Academy of Sciences USSR (3) several laboratories of the Power Engineering Institute imeni G. M. Krzhizhanskiy, Academy of Sciences USSR; and (4) several organizations from other cities of the Soviet Union.

Those who took part in the work of the seminar included many collaborators from the Academy of Sciences USSR and various research and planning organizations that are occupied with the study of "calculating-solving" techniques and precision mechanics.

The purpose of the seminar was to acquaint the various departments of the Academy with the scientific research of other departments which it had been proposed were to be united with the newly created Institute of Precision Mechanics and Calculating Techniques.

Lectures at the seminars encompassed problems connected with the theories, construction, accuracy, efficiency, fields of application, and the development of all possible types of calculating-solving machines. Surveys were made of methods of solving mathematical problems by numerical, tabular, and graphical means.

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In the course of the past year the following lectures were heard and discussed at the seminar:

1. "Perforation Machines and Their Use in the Solution of Mathematical Problems," by I. Ya. Akushskiy.
2. "An Alternating-Current Calculating Table and Experimental Tabulations on It of the Behavior of Two Modified Bessel Functions," by M. S. Libkind, S. S. Chugunov, and P. I. Zubkov, co-workers from the Power Engineering Institute imeni Krzhizhanovskiy, Academy of Sciences USSR.
3. "Instruments for Graphical Integration," by A. B. Shtykan.
4. "The Establishment of Formulas for the Approximate Calculations of Multiple Integrals," reported by L. A. Lyusternik, Corresponding Member, Academy of Sciences USSR, and V. A. Ditkin

In addition, I. S. Bruk, Corresponding Member, Academy of Sciences USSR, contributed an article on "A Duplicating Apparatus of a Purely Electrical Type," N. V. Korol'kov, F. V. Mayorov, and M. L. Bykhovskiy gave lectures on electrical calculating-solving apparatus. Some lectures were delivered on the accuracy of calculating-solving apparatus. The lectures were completed in June 1948, with the interesting communication from Luk'yanov on "Hydraulic Modeling Apparatus."

Now, after the organization of the Institute of Precision Mechanics and Calculating Techniques of the Academy of Sciences USSR, it is proposed to conduct seminars on a wider basis than previously. The present seminar of November of this year proposes the study of the following problems:

1. Solution of mathematical problems on automatic calculators.
2. Mechanical and electrical modeling and solution of certain problems on electrointegrators.
3. Accuracy of various calculating-solving apparatus.
4. Problems of approximation methods in solutions of mathematical problems; problems of operational calculations and tabulation of functions.
5. Information about works on automatic calculation.

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